

July 9, 2015  
Prince William County Service Authority  
4 County Complex Court  
Raymond Spittle Building  
Woodbridge, VA 22192

RE: Dominion Possum Point Power Generating Station Ash Pond Closure Projects

This submission includes information requested in our meeting on Tuesday, July 7, 2015 and serves as a supplement to our previous submission/review of the Pre-Application data dated June 25, 2015. The purpose of this information is to allow PWCSA the opportunity to further assess the feasibility of sending additional wastewaters to the public sanitary sewer collection system on an interim basis. Included are a description of the project, a narrative of the various wastewater flows, a flow diagram, and project schedule with anticipated flows.

### Additional Background

Dominion is currently working to close ~~five three~~ existing ash ponds at the Possum Point Power Station (Station) located in Dumfries, Virginia. The ~~five three~~ ponds are designated A, B, C, D and E and their locations are shown on the attached aerial map. Ponds A, B, & C were originally three contiguous ponds that have been inactive since the 1960's. ~~and are being considered as a single pond for closure purposes. All five ponds Ponds ABC, D and E~~ are scheduled for closure by April 2018 in accordance the Coal Combustion Residual (CCR) regulations provided in 40 Code of Federal Regulations (CFR), Part 257, Subpart D, dated April 17, 2015.

**Comment [jac1]:** Corporate decision to say we are closing five ponds at PP. We need to be consistent in all of our documents and correspondence

The process leading to closure of Ponds A, B, C, D, and E will involve management of the following wastewater types:

- **Ash Dewatering Water** from Ponds A, B, C, D and E. Dewatering Water refers to the water that is produced from the dewatering of the ash in order to stabilize the ash and allow for its removal by mechanical dredging (Ponds A, B, C, and E) or its grading for the construction of a cap system (Pond D). Dewatering Water is currently being generated onsite by the excavation of trenches to drain the ash and by the installation of wells that are being used to pump water out of the ash.
- **Contact Water** from Ponds A, B, C, D and E. Contact Water refers to stormwater that comes in contact with ash. Contact Water must be removed from the working areas to close the ponds.
- **Outfall 501 Water** from the Station's metal cleaning basins. Outfall 501 Water is a permitted internal outfall that was previously discharged into Pond E.
- **Outfall 502 Water** from the Station's oily water treatment basin. Outfall 502 Water is a permitted internal outfall that was previously discharged into Pond E.
- **Pond D Comingled Water**, which refers to the above listed wastewaters that have accumulated or been pumped into Pond D. Pond D Comingled Water must be drained from Pond D to allow for the closure of Pond D. Pond D comingled water includes approximately 74 million gallons of Contact Water (previously permitted for discharge through Pond E) that has accumulated in Pond D since its construction.

## Closure Activities and Schedule

The station is currently permitted under VPDES permit No. VA0002071 to discharge wastewaters from Ponds D and E through Outfall 005 to an unnamed tributary of Quantico Creek. There is currently no discharge from Outfall 005. All flows that were previously collected in Pond E are now being collected and stored in Pond D. In addition, Pond D is being utilized to collect dewatered water and contact water from Ponds A, B, C, and ~~Pond E~~. There is currently no discharge from Pond D.

Dominion is planning to close Ponds A, B, C, and ~~Pond E~~ through the removal of ash in the ponds. To accomplish this, Dominion is mechanically dredging the ash from Pond E to Pond D. Dominion began mechanically ~~ly~~ dredging the ash in Pond E to Pond D on June 15, 2015. Ash from Pond E is being stockpiled in the upper/northern portion of Pond D and is physically separated from the free water in Pond D. Dominion is scheduled to begin mechanically dredging the ash from Ponds A, B, and C to Pond D as ~~early as~~ during July ~~15,~~ 2015.

Dominion is planning to close Pond D as an inactive CCR surface impoundment by leaving the CCR in place and constructing a cap over the ash surface in accordance with 40 CFR §257.100.b.1. Dominion plans to dewater the ash in Pond D to stabilize the ash, grade and place fill on the ash surface to create a slope that will drain, and construct a geosynthetic and soil cap over the ash surface to limit infiltration into the ash.

In order to close the ponds as inactive surface impoundments in accordance with the new CCR regulations (40 CFR §257.100), the CCR regulations require that the surface impoundments be closed no later than April 17, 2018. Dominion has developed the following schedule to close the ponds as inactive facilities, noting PWCSA options:

Table 1. Proposed Ponds A, B, C, D, and E Closure Schedule & Proposed Wastewater Peak Discharge Flow Rates

No.	Activity	Approximate Start Date	Approximate End Date	Proposed Peak Flow Rate	Proposed Volume
1	Mechanically dredge ash from Pond E into Pond D	June 2015	October 2015	--	--
2	Mechanically dredge ash from Ponds <u>A, B, and C</u> into Pond D	July 2015	October 2015	--	--
3	Decant Pond D Comingled Water to PWCSA system to begin drying Pond D <del>to PWCSA system.</del>	July 2015	September 2015	1,500-gpm	74-MG
4	Temporarily discharge Outfall 502 Water to Low Volume Settling Ponds and Outfall 004 (pending Notice of Plan Change to VDEQ)	July 2015	March 2016	--	--
5	Grade ash in north half of Pond D to establish sub-grade	November 2015	March 2016	--	--
6	Discharge Dewatered Water and Contact Water to PWCSA system <sup>a</sup>	January 2016	June 2017 <sup>b</sup>	500-gpm	160-MG
7	Discharge Outfall 501 Water to PWCSA system	January 2016	Not Applicable	722-gpm	5-MG over 3-days per event
8	Discharge Outfall 502 Water to Low Volume Settling Ponds and Outfall 004 (pending VPDES permit modification)	January 2016	Not Applicable	--	--
9	Ponds <u>A, B, C, and E</u> <del>-ABC and Pond E</del> Soil Amendments and Seeding Construct temporary sediment basins in Ponds <u>A, B, C,</u> and E for discharge of stormwater (pending County Site Plan and VSMP Permit)	March 2016	March 2017	--	--

Comment [jac2]: Is this a repetition?

No.	Activity	Approximate Start Date	Approximate End Date	Proposed Peak Flow Rate	Proposed Volume
10	Grade ash and import fill from borrow to establish sub-grade (entire Pond D)	March 2016	August 2016	--	--
11	Construct Pond D cap (geosynthetic liner and 2-feet of cover soil)	August 2016	June 2017	--	--
12	Closed Ash Pond D Passive Under-drain <sup>c</sup>	June 2017	December 2018	100-gpm	68-MG
13	Construct storm water controls/channel linings	July 2017	August 2017	--	--
14	Pond D soil amendments and seeding	September 2017	October 2017	--	--
15	CCR regulations closure deadline for inactive surface impoundments	April 17, 2018	April 17, 2018	--	--

Notes:

- Prior to approval of the PWCSA, Dewatered Water and Contact Water shall be held in Pond D or filtered and held in the Pond E Impoundment (after the ash has been removed from Pond E).
- According to this schedule, Contact Water will no longer be generated after June ~~of~~ 2017, when the Pond D cap will be complete. Dewatered Water may continue to be produced after capping of Pond D as needed to aid in the dewatering and stabilization.
- Estimated duration of flow for passive under-drain system is 18 months.

### Mitigating Wet Weather Peak Flows

Dominion's proposal to tie into the public sanitary sewer collection system includes mitigating peak discharges by storing storm water runoff in Pond D or in a temporary storage facility in Pond E. Also, storm water runoff will be diverted around work areas to the maximum extent practical. The discharge rate into the collection system could also be reduced during peak demand hours or during wet weather events, if required. These details can be negotiated at PWCSA's request.

### Updated Quality Data and Flow Diagrams

Additional quality data has been obtained since our June 2015 meeting. The latest quality data for the wastewaters is attached in Table 2. Also, attached are flow diagrams for existing conditions, dewatering/construction, and interim post-construction phases.

Pending PWCSA's determination on the feasibility of this request, Dominion plans to submit application materials for review. We appreciate the PWCSA's consideration of this request. Ultimately, implementation of this request will allow the timely closure and/or restoration of the ash ponds in accordance with the new CCR rules.

\_\_\_\_\_  
Signature of Responsible Official

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Table 2. Presumed Qualities of Wastewater Sources Compared to Prince William County Service Authority Pre-Treatment Standards.

Parameter	Units	PWCSA Pre- Treatment Standards	Ash Pond E Dewatering							Ash Pond D Surface Water				Ash Pond E Surface Water (After Decanting)	Metal Waste Internal Outfall 501	Oily Water Internal Outfall 502
			RMD-1	RMD-2	RMD-3	Well Discharge 1	Well Discharge 2	Well Discharge 3	Well Discharge 3 DUP	Pond D	Pond D 2	Pond D 3	Pond D 4	Pond E	501 Discharge	502 Discharge
			5/5/2015	5/6/2015	5/11/2015	5/11/2015	5/12/2015	5/13/2015	5/13/2015	5/5/2015	6/9/2015	6/15/2015	6/16/2015	5/5/2015	5/6/2015	5/7/2015
Arsenic	mg/L	0.23	0.051	0.37	0.26	1.1	0.92	1.2	1.2	0.01	0.018	0.019	0.019	0.09	< 0.0005	< 0.0005
Cadmium	mg/L	0.18	< 0.00016	0.00055	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	ND	< 0.00016	< 0.00016	< 0.00016
Chromium	mg/L	2.0	< 0.00033	0.016	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	ND	0.0025	< 0.00033	< 0.00033
Copper	mg/L	2.0	0.0036	0.084	0.0047	< 0.00083	< 0.00083	< 0.00083	< 0.00083	0.003	< 0.00083	< 0.00083	ND	0.0062	0.0038	0.015
Cyanide	mg/L	0.5	NA	< 0.00058	NA	NA	< 0.00058	NA	NA	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058
Lead	mg/L	0.18	< 0.00033	0.038	0.0017	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	ND	0.003	< 0.00033	< 0.00033
Mercury	mg/L	0.001	< 0.00016	0.00051	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016	< 0.00016
Molybdenum	mg/L	2.5	NA	0.05	NA	NA	0.097	NA	NA	0.035	0.049	0.051	0.050	0.083	0.0018	0.0045
Nickel	mg/L	2.0	0.0091	0.028	0.013	0.0081	0.0064	0.0082	0.008	0.0045	0.0029	0.0028	0.0027	0.014	0.023	0.032
Selenium	mg/L	3.0	0.0093	0.04	0.0088	< 0.00066	< 0.00066	< 0.00066	< 0.00066	0.0037	0.0056	0.0052	0.0058	0.017	< 0.00066	< 0.00066
Silver	mg/L	1.0	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	< 0.00033	ND	< 0.00033	< 0.00033	< 0.00033
Zinc	mg/L	4.0	0.0073	0.066	0.013	0.026	0.016	0.016	0.016	0.0071	0.01	< 0.00083	ND	0.0091	0.0042	0.02
Beryllium	mg/L	0.088	NA	0.0072	NA	NA	< 0.0001	NA	NA	< 0.0001	< 0.0001	< 0.0001	ND	< 0.0001	< 0.0001	< 0.0001
BOD	mg/L	N/A	NA	2.3	NA	NA	< 0.8	NA	NA	6.10	< 0.8	TBD	ND	< 0.8	< 0.8	3.4
TSS	mg/L	N/A	26	159	44	34	19	20	26	40	9	< 5	8	39	<5	10
Phosphorous	mg/L	N/A	NA	0.79	NA	NA	0.37	NA	NA	0.93	< 0.019	< 0.019	< 0.019	0.16	0.16	0.1
Ammonia	mg/L	N/A	<0.03	<0.03	<0.03	0.306	0.322	0.287	0.282	<0.03	<0.03	<0.03	<0.03	0.189	<0.03	0.108
FOG	mg/L	100	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	6.3	< 0.5	ND	<0.5	<0.5	<0.5
pH	S.U.	5.5 to 12.0	8.32	8.12	8.01	7.63	7.5	7.24	NA	7.40	8.07	8.10	7.97	8.19	10.20	8.52
Temperature	°C	30	29.78	26.87	30.59	18.16	18.65	16.36	NA	24.38	29.98	31.98	32.50	26.73	19.35	22.38

TABLE NOTES:  
1) NA = Not Analyzed  
2) N/A = Not Applicable.  
3) Non Detects are reported as < Method Detection Limit (MDL).  
4) PWCSA = Prince William County Service Authority.  
5) FOG = Fats, Oils, & Grease.  
6) pH are field measurements.  
7) Wastewater sources quality data include sample ID and date sampled, respectively.  
8) ND = Not Detected, MDL pending from lab.